UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,411	12/17/2004	Toru Hibara	26460U	7754

20529   7590   07/07/2009
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EXAMINER
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ART UNIT	PAPER NUMBER
3628	

MAIL DATE	DELIVERY MODE
07/07/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/518,411	HIBARA ET AL.
	Examiner	Art Unit	
	FREDA A. NELSON	3628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *06 April 2009*.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-25* is/are pending in the application.

  4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1-25* is/are rejected.
7) ☒ Claim(s) *18-21* is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a)☐ All b)☐ Some * c)☐ None of:

  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. _____.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The communication received on April 27, 2009 is acknowledged and entered.

Claims 1, 8-9, 18, and 22 have been amended. No claims have been added.

Claims 1-25 are currently pending.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the

fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection.

Since this application is eligible for continued examination under 37 CFR 1.114,

and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the

previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on April 27, 2009 has been entered.

Response to Amendments and Arguments

Applicant's arguments filed April 6, 2009 have been fully considered but

they are not persuasive.

1.   In response to Applicant's argument that in regards to claim 1, 8, 18, and

22, Maruta et al. fails to show or suggest "including an initial material cost

estimate within the pricing data", the Examiner asserts that while the specification

discloses "It is to be noted that "image forming material" referred here means

material used in printing an image on the print sheet, such as ink and toner and

the like. Further, the "printing cost information" includes stencil sheet unit price

information if a printing machine is the stencil printing machine. Furthermore, if

there is a distinct difference of power consumption among the printing machines,

the cost for the power consumption of the printing machines at the time of

printing may be included in calculation" on page 14, lines 6-14; "printing unit

price that includes an *initial material cost for a print order and an incremental per-*

page cost, so that the printing cost varies depending on a print count; and

printing cost information for each of the plurality of printing machines *including*

the initial material cost, and the print count of the image data" does not have

support within the specification.

However, Meade, II et al. discloses in order to realize tracking apparatus

10, specific information is collected by image forming device 12 which describes

toner coverage and paper used by the image forming device when generating

individual pages and/or print jobs, wherein such methodology involves trapping

toner coverage and paper-used information at the image forming device 12 in the

form of data which allows the data to be collected where it can be evaluated

and/or retrieved by LAN 16 and/or any device connected to LAN 16. More

particularly, four kinds of information are collected and/or co-located within image

forming device 12: (1) the location where costs have been incurred; (2) the

job/page complete validation information; (3) consumables cost information; and

(4) information describing print jobs including who generated the print job, from

where the print job was generated, and when the print job was generated (col. 6,

line 66-col. 7, line 14). Meade, II et al. further discloses an image forming

device 12, or printer, using tracking apparatus 10 of Applicant's invention can

keep track of the costs incurred when printing a print job. More particularly,

a user can keep track of the number of pages of paper that are utilized and the

amount of toner that is utilized when generating a print job (col. 6, lines 29-46).

       Therefore, it would have been obvious to one of ordinary skill in the art at

the time the invention was made to modify the invention of Maruta et al. to

include the toner usage and paper usage feature of Meade, II et al. in order to

provide the user the ability to break pixels/toner usage and paper into separate

categories of costs so a user can better automatically measure costs on a 100%

pay-for-what-you-use basis (Meade, II: col. 8, lines 49-35).

2.   In response to Applicants that in regards to claim 9, there is no suggestion

that such a formula be incorporated into Maruta; and to the contrary, Maruta

specifies cost calculation according to a cost schedule which linearly applies cost

based on area and ink, but without accounting for initial material costs. The

Examiner notes that Ueda et al. discloses to calculate printing costs including the

costs of masters, the printer selection utility software calculates a particular cost

of a master for each number of printings. Because the cost of a master and that

of ink cost depend on the kind of a master and that of ink, the user is expected to

input them. This allows the user to customize the printing costs, or reference for

selection, and thereby enhances convenient use of the printing system 1 (col. 5,

lines 26-36; FIGS. 1, 3, and 7). Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to modify the invention

of Maruta et al. to include the cost of masters while using parameters and

equations for calculating the cost of a print job.

3.   In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the use of a stencil master into a cost calculation) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Moreover, Springett discloses the system calculates a total area coverage to date for the marking material cartridge and from this information an expected number of pages that the marking material cartridge can render is determined and displayed. The system determines a date when marking material in the marking material cartridge will be depleted and displays the date. The system also calculates an average coverage amount for a page being presently rendered; and it can also calculate per page costs of the page currently being printed, and the pages printed to date. Additionally, the cost benefits of draft or other reduced print quality modes can be calculated and displayed. The method and system is equally applicable to black and white or color printing (Abstract; FIGS. 3 and 4).

        Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Maruta et al. to include the ink page coverage calculation feature of Springett in order to calculate the cost of total area coverage to date for the marking material cartridge.

4.   In response to Applicant's argument that all claims that depend from claims 1, 8, 18, and 22 are allowable since none of the prior art discloses or

suggests all the features of the claimed subject matter, the Examiner respectfully

disagrees for all the reasons for rejection as applied to independent claims 1, 8,

18, and 22 above.

Claim Objections

5.   Claims 18-21 are objected to under 37 CFR 1.75 as being a substantial

duplicate of claims 8 and 11-13. When two claims in an application are

duplicates or else are so close in content that they both cover the same thing,

despite a slight difference in wording, it is proper after allowing one claim to

object to the other as being a substantial duplicate of the allowed claim. See

MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

6.   **Claims 1, 8, 18, and 22** are rejected under 35 U.S.C. 112, first paragraph,

as failing to comply with the written description requirement. The claim(s)

contains subject matter which was not described in the specification in such a

way as to reasonably convey to one skilled in the relevant art that the inventor(s),

at the time the application was filed, had possession of the claimed invention.

While the specification discloses "It is to be noted that "image forming

material" referred here means material used in printing an image on the print

sheet, such as ink and toner and the like. Further, the "printing cost information"

includes stencil sheet unit price information if a printing machine is the stencil

printing machine. Furthermore, if there is a distinct difference of power

consumption among the printing machines, **the cost for the power consumption of the printing machines at the time of printing may be included in calculation"** on page 14, lines 6-14; the Examiner notes that "printing unit price that includes an *initial material cost for a print order and an incremental per-page cost, so that the printing cost varies depending on a print count*; and printing cost information for each of the plurality of printing machines *including the initial material cost*, and the print count of the image data" does not have support within the specification.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7.   Claims 1-5 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As per claims 1-5, the claims as recited appear to be directed to data structure, logic, or software for a computer. Thus, the claims are directed to functional descriptive material that is not functionally or structurally interrelated to any medium. Data structures not claimed as embodied on statutory computer readable media (i.e., storage media, and excluding non-statutory media such as carrier waves) are descriptive material per se and therefore not patentable subject matter under § 101 as they are neither a process, a machine, a manufacture, nor a composition of matter. MPEP § 2106 IV.(g)(1)(a).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to
> be patented and the prior art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having ordinary skill in the art to which
> said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

8.   **Claims 1-2, 4-8, 10-11, 13, 15-19, 21-23, and 25 are rejected under 35**

U.S.C. 103(a) as being unpatentable over Maruta et al. (US Patent Number

6,516,157), in view of Meade, II et al. (US Patent Number 6,903,836).

As per claim 1, Maruta et al. discloses an information processing

apparatus for transmitting inputted image data to a printing machine connected

via an electronic network and making the printing machine execute printing, the

information processing apparatus comprising:

a cost information register section for registering printing cost information

for each of a plurality of printing machines connected via the electronic network

(col. 11, lines 23-45; col. 11, lines 59-64; abstract);

an area coverage calculation section for calculating an area coverage by

image forming material defined by an area of a print sheet covered with image

forming material when printing the image data on the print sheet (col. 8, line 59-

col. 9, line 8);

and a printing cost calculation section for calculating a printing cost for

printing the image data, based on the area coverage by image forming material,

printing cost information for each of the plurality of printing machines, and a print

count of the image data (col. 9, lines 19-24).

Maruta et al. does not specifically disclose wherein the printing cost

information for at least one of the printing machines has a printing unit price that

includes an initial material cost for a print order and an incremental per-page

cost, so that the printing cost varies depending on a print count; and printing cost

information for each of the plurality of printing machines including the initial

material cost, and the print count of the image data.

However, Meade, II et al. discloses in order to realize tracking apparatus

10, specific information is collected by image forming device 12 which describes

toner coverage and paper used by the image forming device when generating

individual pages and/or print jobs, wherein such methodology involves trapping

toner coverage and paper-used information at the image forming device 12 in the

form of data which allows the data to be collected where it can be evaluated

and/or retrieved by LAN 16 and/or any device connected to LAN 16. More

particularly, four kinds of information are collected and/or co-located within image

forming device 12: (1) the location where costs have been incurred; (2) the

job/page complete validation information; (3) consumables cost information; and

(4) information describing print jobs including who generated the print job, from

where the print job was generated, and when the print job was generated (col. 6,

line 66-col. 7, line 14). Meade, II et al. further discloses an image forming

device 12, or printer, using tracking apparatus 10 of Applicant's invention can

keep track of the costs incurred when printing a print job. More particularly,

a user can keep track of the number of pages of paper that are utilized and the amount of toner that is utilized when generating a print job (col. 6, lines 29-46).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Maruta et al. to include the toner usage and paper usage feature of Meade, II et al. in order to provide the user the ability to break pixels/toner usage and paper into separate categories of costs so a user can better automatically measure costs on a 100% pay-for-what-you-use basis (Meade, II: col. 8, lines 49-35).

As per claim 2, Maruta et al. discloses the information processing apparatus according to claim 1, further comprising:

a printing machine selection section which selects a printing machine of the minimum printing cost from among the printing cost of the plurality of printing machines calculated at the printing cost calculation section (col. 18, line 66-col. 19, line 6); and

an image transmission section which transmits the image data to the selected printing machine at the printing machine selection section via the electronic network (col. 18, line 66-col. 19, line 6).

As per claim 4, Maruta et al. discloses the information processing apparatus according to claim 1, wherein the area coverage calculation section comprises:

a sampling section sampling the image data at a predetermined sampling

space (col. 7, lines 54-60; col. 8, lines 5-28; FIG. 4);

a binary coding section converting sampled image data obtained at the

sampling section to binarized image data consisting of black pixels and white

pixels (col. 8, lines 5-58);

a black pixel counting section counting black pixels of the binarized image

data obtained at the binary coding section (col. 8, lines 5-58); and

a black pixel area calculation section calculating the area coverage by

image forming material based on the number of black pixels counted at the black

pixel counting section, the sampling space, and a resolution of the printing

machine (col. 8, lines 5-58).

As per claim 5, Maruta et al. discloses the information processing

apparatus according to claim 1, wherein the information processing apparatus is

an image input apparatus transmitting the inputted image data from an image

reading section to the printing machines connected via the electronic network

(col. 13, lines 32-35; FIGS. 13 and 14).

As per claim 6, Maruta et al. discloses the information processing

apparatus according to claim 1, wherein the information processing apparatus is

a personal computer transmitting the inputted image data from an application

program to the printing machine connected via the electronic network (FIGS. 11

and 12).

As per claim 7, Maruta et al. discloses the information processing apparatus according to claim 1, wherein the information processing apparatus is a server transmitting the inputted image data from an application program to the printing machine connected via the electronic network (col. 25, lines 6-22).

As per claim 8, Maruta et al. discloses a computer-readable recording medium on which an information processing program transmitting inputted image data to a printing machine connected via an electronic network and making the printing machine execute printing is recorded, the information processing program causing an information processing apparatus to execute

a cost information register section for registering printing cost information for each of a plurality of printing machines connected via the electronic network (col. 11, lines 23-45; col. 11, lines 59-64; abstract);

an area coverage calculation section for calculating an area coverage by image forming material defined by an area of a print sheet covered with image forming material when printing the image data on the print sheet (col. 8, line 59-col. 9, line 8);

and a printing cost calculation section for calculating a printing cost for printing the image data, based on the area coverage by image forming material, printing cost information for each of the plurality of printing machines, and a print count of the image data (col. 9, lines 19-24).

Maruta et al. does not specifically disclose wherein the printing cost

information for at least one of the printing machines has a printing unit price that

includes an initial material cost for a print order and an incremental per-page

cost, so that the printing cost varies depending on a print count; and printing

cost information for each of the plurality of printing machines including the initial

material cost, and the print count of the image data.

However, Meade, II et al. discloses in order to realize tracking apparatus

10, specific information is collected by image forming device 12 which describes

toner coverage and paper used by the image forming device when generating

individual pages and/or print jobs, wherein such methodology involves trapping

toner coverage and paper-used information at the image forming device 12 in

the form of data which allows the data to be collected where it can be evaluated

and/or retrieved by LAN 16 and/or any device connected to LAN 16. More

particularly, four kinds of information are collected and/or co-located within

image forming device 12: (1) the location where costs have been incurred; (2)

the job/page complete validation information; (3) consumables cost information;

and (4) information describing print jobs including who generated the print job,

from where the print job was generated, and when the print job was generated

(col. 6, line 66-col. 7, line 14).   Meade, II et al. further discloses an image

forming device 12, or printer, using tracking apparatus 10 of Applicant's

invention can keep track of the costs incurred when printing a print job. More

particularly, a user can keep track of the number of pages of paper that are

utilized and the amount of toner that is utilized when generating a print job (col. 6, lines 29-46).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Maruta et al. to include the toner usage and paper usage feature of Meade, II et al. in order to provide the user the ability to break pixels/toner usage and paper into separate categories of costs so a user can better automatically measure costs on a 100% pay-for-what-you-use basis (Meade, II: col. 8, lines 49-35).

As per claim 10, Maruta et al. discloses the recording medium according to claim 8, wherein the information processing program causes the calculated printing cost for each of the plurality of printing machines to be displayed on a display device (col. 2, line 66-col. 3, lines 19)

As per claim 11, Maruta et al. discloses the recording medium according to claim 8, wherein the information processing program further causes the information processing apparatus to execute:

a printing machine selection section which selects a printing machine of the minimum printing cost from among the printing cost of the plurality of printing machines calculated at the printing cost calculation section (col. 18, line 66-col. 19, line 6); and

an image transmission section which transmits the image data to the

selected printing machine at the printing machine selection section via the

electronic network (col. 18, line 66-col. 19, line 6).

As per claim 13, Maruta et al. discloses the recording medium according

to claim 8, wherein the area coverage calculation section comprises:

a sampling section sampling the image data at a predetermined sampling

space (col. 7, lines 54-60; col. 8, lines 5-28; FIG. 4);

a binary coding section converting sampled image data obtained at the

sampling section to binarized image data consisting of black pixels and white

pixels (col. 8, lines 5-58);

a black pixel counting section counting black pixels of the binarized image

data obtained at the binary coding section (col. 8, lines 5-58); and

a black pixel area calculation section calculating the area coverage by

image forming material based on the number of black pixels counted at the black

pixel counting section, the sampling space, and a resolution of the printing

machine (col. 8, lines 5-58).

As per claim 15, Maruta et al. discloses the recording medium according

to claim 8, wherein the information processing apparatus is an image input

apparatus transmitting inputted image data from an image reading section to the

printing machine connected via the electronic network (col. 13, lines 32-35; FIGS.

13 and 14); and

wherein the information processing program is a firmware program of the

image input apparatus (col. 12, line 57-col. 13, line 11).

As per claim 16, Maruta et al. discloses the recording medium according

to claim 8, wherein the information processing apparatus is a personal computer

transmitting the inputted image data from an application program to the printing

machine connected via the electronic network (col. 25, lines 6-35); and

wherein the information processing program is a virtual printer driver

handing over the image data to a printer driver program for a selected printing

machine (col. 12, line 66-col. 13, line 11).

As per claim 17, Maruta et al. discloses the recording medium according

to claim 8, wherein the information processing apparatus is a server transmitting

the inputted image data from the application program to the printing machine

connected via the electronic network (col. 25, lines 6-35); and

wherein the information processing program is a virtual printer driver

handing over the image data to the printer driver program for the selected

printing machine (col. 12, line 66-col. 13, line 11).

As per claim 18, Maruta et al. discloses an information processing

apparatus for transmitting inputted image data to a printing machine connected

via an electronic network and making the printing machine execute printing, the

information processing apparatus comprising:

a cost information register section for registering printing cost information

for each of a plurality of printing machines connected via the electronic network

(col. 11, lines 23-45; col. 11, lines 59-64; abstract);

an area coverage calculation section for calculating an area coverage by

image forming material defined by an area of a print sheet covered with image

forming material when printing the image data on the print sheet (col. 8, line 59-

col. 9, line 8);

and a printing cost calculation section for calculating a printing cost for

printing the image data, based on the area coverage by image forming material,

printing cost information for each of the plurality of printing machines, and a print

count of the image data (col. 9, lines 19-24).

Maruta et al. does not specifically disclose wherein the printing cost

information for at least one of the printing machines has a printing unit price that

includes an initial material cost for a print order and an incremental per-page

cost, so that the printing cost varies depending on a print count; and printing cost

information for each of the plurality of printing machines including the initial

material cost, and the print count of the image data.

However, Meade, II et al. discloses in order to realize tracking apparatus

10, specific information is collected by image forming device 12 which describes

toner coverage and paper used by the image forming device when generating

individual pages and/or print jobs, wherein such methodology involves trapping

toner coverage and paper-used information at the image forming device 12 in the

form of data which allows the data to be collected where it can be evaluated

and/or retrieved by LAN 16 and/or any device connected to LAN 16. More particularly, four kinds of information are collected and/or co-located within image forming device 12: (1) the location where costs have been incurred; (2) the job/page complete validation information; (3) consumables cost information; and (4) information describing print jobs including who generated the print job, from where the print job was generated, and when the print job was generated (col. 6, line 66-col. 7, line 14). Meade, II et al. further discloses an image forming device 12, or printer, using tracking apparatus 10 of Applicant's invention can keep track of the costs incurred when printing a print job. More particularly, a user can keep track of the number of pages of paper that are utilized and the amount of toner that is utilized when generating a print job (col. 6, lines 29-46).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Maruta et al. to include the toner usage and paper usage feature of Meade, II et al. in order to provide the user the ability to break pixels/toner usage and paper into separate categories of costs so a user can better automatically measure costs on a 100% pay-for-what-you-use basis (Meade, II: col. 8, lines 49-35).

As per claim 19, Maruta et al. discloses the computer program product according to claim 18, wherein the information processing program further causes the information processing apparatus to execute:

a printing machine selection process selecting a printing machine of the minimum printing cost from among the printing cost of the plurality of printing machines (col. 18, line 66-col. 19, line 6); and

an image transmission process transmitting the image data to the selected printing machine (col. 18, line 66-col. 19, line 6).

As per claim 21, Maruta et al. discloses the computer program product according to claim 18, wherein the area coverage calculation process comprises:

a sampling section sampling the image data at a predetermined sampling space (col. 7, lines 54-60; col. 8, lines 5-28; FIG. 4);

a binary coding section converting sampled image data obtained at the sampling section to binarized image data consisting of black pixels and white pixels (col. 8, lines 5-58);

a black pixel counting section counting black pixels of the binarized image data obtained at the binary coding section (col. 8, lines 5-58); and

a black pixel area calculation section calculating the area coverage by image forming material based on the number of black pixels counted at the black pixel counting section, the sampling space, and a resolution of the printing machine (col. 8, lines 5-58).

As per claim 22, Maruta et al. discloses an information processing apparatus for transmitting inputted image data to a printing machine connected

via an electronic network and making the printing machine execute printing, the

information processing apparatus comprising:

a cost information register section for registering printing cost information

for each of a plurality of printing machines connected via the electronic network

(col. 11, lines 23-45; col. 11, lines 59-64; abstract);

an area coverage calculation section for calculating an area coverage by

image forming material defined by an area of a print sheet covered with image

forming material when printing the image data on the print sheet (col. 8, line 59-

col. 9, line 8);

and a printing cost calculation section for calculating a printing cost for

printing the image data, based on the area coverage by image forming material,

printing cost information for each of the plurality of printing machines, and a print

count of the image data (col. 9, lines 19-24).

Maruta et al. does not specifically disclose wherein the printing cost

information for at least one of the printing machines has a printing unit price that

includes an initial material cost for a print order and an incremental per-page

cost, so that the printing cost varies depending on a print count; and printing

cost information for each of the plurality of printing machines including the initial

material cost, and the print count of the image data.

However, Meade, II et al. discloses in order to realize tracking apparatus

10, specific information is collected by image forming device 12 which describes

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toner coverage and paper-used information at the image forming device 12 in the

form of data which allows the data to be collected where it can be evaluated

and/or retrieved by LAN 16 and/or any device connected to LAN 16. More

particularly, four kinds of information are collected and/or co-located within image

forming device 12: (1) the location where costs have been incurred; (2) the

job/page complete validation information; (3) consumables cost information; and

(4) information describing print jobs including who generated the print job, from

where the print job was generated, and when the print job was generated (col. 6,

line 66-col. 7, line 14). Meade, II et al. further discloses an image forming

device 12, or printer, using tracking apparatus 10 of Applicant's invention can

keep track of the costs incurred when printing a print job. More particularly,

a user can keep track of the number of pages of paper that are utilized and the

amount of toner that is utilized when generating a print job (col. 6, lines 29-46).

Therefore, it would have been obvious to one of ordinary skill in the art at

the time the invention was made to modify the invention of Maruta et al. to

include the toner usage and paper usage feature of Meade, II et al. in order to

provide the user the ability to break pixels/toner usage and paper into separate

categories of costs so a user can better automatically measure costs on a 100%

pay-for-what-you-use basis (Meade, II: col. 8, lines 49-35).

As per claim 23, Maruta et al. discloses the information processing

method according to claim 22, further comprising:

selecting a printing machine of the minimum printing cost from among the

printing cost of the plurality of printing machines (col. 18, line 66-col. 19, line 6);

and

transmitting the image data to the selected printing machine (col. 18, line

66-col. 19, line 6).

As per claims 25, Maruta et al. discloses the information processing

method according to claim 22, wherein the area coverage by image forming

material calculation section further comprises:

a sampling section sampling the image data at a predetermined sampling

space (col. 7, lines 54-60; col. 8, lines 5-28; FIG. 4);

a binary coding section converting sampled image data obtained at the

sampling section to binarized image data consisting of black pixels and white

pixels (col. 8, lines 5-58);

a black pixel counting section counting black pixels of the binarized image

data obtained at the binary coding section (col. 8, lines 5-58); and

a black pixel area calculation section calculating the area coverage by

image forming material based on the number of black pixels counted at the black

pixel counting section, the sampling space, and a resolution of the printing

machine (col. 8, lines 5-58).

9.   Claims 3, 12, 20, and 24 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Maruta et al. (US Patent Number 6,516,157), in view of

Meade, II et al. (US Patent Number 6,903,836) as applied to claims 1, 8, 18, and 22 above, and further in view of Motamed (US Patent Number 6,356,359).

As per claim 3, Maruta et al. discloses the information processing apparatus according to claim 1, wherein the printing cost calculation section calculates the printing cost for printing the image data for each of the plurality of printing machines connected via the electronic network, based on printing cost information, and the print count of the image data (FIGS. 2, 23, 29, and 32). Maruta et al. does not expressly disclose a print density of the image data.

However, Motamed discloses to estimate toner usage, a pixel coverage counter 36 receives 22 the image datastream 28, and forwards the mapping information, so that the datastream 28 is analyzed to count the specified toner density of each pixel 14 within an image to be printed 12, and the cost of toner for the printed image 12 is determined. The pixel coverage counter may be, for example, an estimator that counts contone percentages before halftoning (shown in FIG. 5) or it may be an exact counter that counts pixel coverage after halftoning (col. 3, lines 35-47).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Maruta et al. to include the ability to price print jobs based on the toner density of pixels since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the

results of the combination were predictable.

As per claim 12, Maruta et al. discloses the recording medium according

to claim 8, wherein the printing cost of printing the image data is calculated

based on the area coverage by image forming material defined by the area of the

print sheet covered with the image forming material on the print sheet, printing

cost information, and the print count of the image data (FIGS 23, 29, and 32).

Maruta et al. does not expressly disclose a print density of the image data.

However, Motamed discloses to estimate toner usage, a pixel coverage

counter 36 receives 22 the image datastream 28, and forwards the mapping

information, so that the datastream 28 is analyzed to count the specified toner

density of each pixel 14 within an image to be printed 12, and the cost of toner

for the printed image 12 is determined. The pixel coverage counter may be, for

example, an estimator that counts contone percentages before halftoning (shown

in FIG. 5) or it may be an exact counter that counts pixel coverage after

halftoning (col. 3, lines 35-47).

Therefore, it would have been obvious to one of ordinary skill in the art at

the time the invention was made to modify the invention of Maruta et al. to

include the ability to price print jobs based on the toner density of pixels since the

claimed invention is merely a combination of old elements, and in the

combination each element merely would have performed the same function as it

did separately, and one of ordinary skill in the art would have recognized that the

results of the combination were predictable.

As per claim 20, Maruta et al. discloses the computer program product according to claim 18, wherein the printing cost of printing the image is calculated based on the area coverage by image forming material defined by the area of the print sheet covered with image forming material on the print sheet, printing cost information, and the print count of the image data (FIGS 23, 29, and 32). Maruta et al. does not expressly disclose a print density of the image data.

However, Motamed discloses to estimate toner usage, a pixel coverage counter 36 receives 22 the image datastream 28, and forwards the mapping information, so that the datastream 28 is analyzed to count the specified toner density of each pixel 14 within an image to be printed 12, and the cost of toner for the printed image 12 is determined. The pixel coverage counter may be, for example, an estimator that counts contone percentages before halftoning (shown in FIG. 5) or it may be an exact counter that counts pixel coverage after halftoning (col. 3, lines 35-47).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Maruta et al. to include the ability to price print jobs based on the toner density of pixels since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

As per claim 24, Maruta et al. discloses the information processing method according to claim 22, wherein the printing cost of printing the image data is calculated based on the area coverage by image forming material defined by the area of the print sheet covered with image forming material on the print sheet, printing cost information of the image data, and the print count of the image data (FIGS 23, 29, and 32). Maruta et al. does not expressly disclose a print density of the image data.

However, Motamed discloses to estimate toner usage, a pixel coverage counter 36 receives 22 the image datastream 28, and forwards the mapping information, so that the datastream 28 is analyzed to count the specified toner density of each pixel 14 within an image to be printed 12, and the cost of toner for the printed image 12 is determined. The pixel coverage counter may be, for example, an estimator that counts contone percentages before halftoning (shown in FIG. 5) or it may be an exact counter that counts pixel coverage after halftoning (col. 3, lines 35-47).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Maruta et al. to include the ability to price print jobs based on the toner density of pixels since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

10.   Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Maruta et al. (US Patent Number 6,516,157) in view of Meade, II et al. (US

Patent Number 6,903,836) as applied to claim 8 above, and further in view

of Ueda et al. (US Patent Number 7,046,383).

As per claim 9, Maruta et al. in view of Meade, II et al. discloses the

recording medium according to claim 8 as described above, but does not

expressly disclose wherein the printing cost calculation process calculates the

printing cost with the parameters: "J" is a printing cost; "P_{master}" is a unit price of a

stencil sheet;

"$P_{print\ sheet}$" is a unit price of the print sheet; "P_{ink}" is a unit price of image

forming material;

"S" is the area coverage by image forming material; and

"N" is a print count, and with the equation,

$J = P_{master} + (P_{print\ sheet} + P_{ink} \times S) \times N$.

However, Ueda et al. discloses to calculate printing costs including the

costs of masters, the printer selection utility software calculates a particular cost

of a master for each number of printings. Because the cost of a master and that

of ink cost depend on the kind of a master and that of ink, the user is expected to

input them. This allows the user to customize the printing costs, or reference for

selection, and thereby enhances convenient use of the printing system 1 (col. 5,

lines 26-36; FIGS. 1, 3, and 7).

Therefore, it would have been obvious to one of ordinary skill in the art at

the time the invention was made to modify the invention of Maruta et al. to

include the cost of masters while using parameters and equations for calculating

the cost of a print job.

11.   Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable

over Maruta et al. (US Patent Number 6,516,157), in view of Meade, II et al.

(US Patent Number 6,903,836) as applied to claim 8 above, and further in

view of Motamed (US Patent Number 5,636,032).

As per claim 14, Maruta et al. in view of Meade, II et al. discloses the

recording medium according to claim 13 as described above, but does not

expressly disclose wherein the area coverage calculation process calculates the

area coverage by image forming material of the image data with the parameters,

"S" is a area coverage by image forming material;

"A" is a print sheet area;

"$N_{black-pixel}$" is number of black pixels;

"R" is a resolution equivalent to that of the printing machine;

"R1" is a resolution of the printing machine;

"M" is a sampling space;

"LI" is a lateral length of the print sheet; and

"L2" is a lateral length of the print sheet, and with the equation

$S = (A \times N_{black-pixel}) / (L1 \times L2 \times R^2)$

$= N_{black-pixel} \times (M/R1)^2$

Springett discloses the system calculates a total area coverage to date for

the marking material cartridge and from this information an expected number of

pages that the marking material cartridge can render is determined and

displayed. The system determines a date when marking material in the marking

material cartridge will be depleted and displays the date. The system also

calculates an average coverage amount for a page being presently rendered;

and it can also calculate per page costs of the page currently being printed, and

the pages printed to date. Additionally, the cost benefits of draft or other reduced

print quality modes can be calculated and displayed. The method and system is

equally applicable to black and white or color printing (Abstract; FIGS. 3 and 4).

Therefore, it would have been obvious to one of ordinary skill in the art at

the time the invention was made to modify the invention of Maruta et al. to

include the ink page coverage calculation feature of Springett in order to

calculate the cost of total area coverage to date for the marking material

cartridge.

Conclusion

12.   The examiner has cited prior art of interest, for example:

1) Ueda et al. (US Patent Number 7,397,577), which discloses a printing

system including different kinds of printers and a printer selecting device therefor

2) Gilliland et al. (US Patent Number 5,349,377), which discloses printer

toner usage indicator with image weighted calculation.

13.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Freda A. Nelson whose telephone number is (571) 272-7076. The examiner can normally be reached on Monday - Wednesday and Friday, 10:00 AM -6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hayes can be reached on 571-272-6708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/F. A. N./
Examiner, Art Unit 3628

/FREDA A. NELSON/
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